

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1-8 (Canceled)

9. (Currently Amended) A method for controlling playback of a record carrier comprising ~~video-related user data and control data~~ in digital form, wherein the control data enables playback control of the user data, ~~and wherein the control data comprises~~ the method comprising the acts of:

~~play control data which defines user data~~ defining playable items of the user data ~~which are playable; and~~

providing in the control data selection control data for enabling ~~the user to select~~ selection of the playable items of the user data ~~and control~~, play data for reproduction of the selected user data; and

~~variable control data, and variable data for operating on user~~
~~and system variables, variables;~~

wherein the variable control data comprises at least one
~~conditional instruction, wherein each instruction of the at least~~
~~one the conditional instruction includes including an operation~~
~~code indicating a type of operation to be performed, a condition~~
~~code, a type of calculation and operands, wherein the operation~~
~~code includes an operation portion denoting an operation and a~~
~~condition portion denoting a condition, wherein the operation is to~~
~~be executed if the condition is TRUE, wherein the operation is not~~
~~to be executed if the condition is FALSE code has first second and~~
~~third values and at least one of respective first, second and third~~
~~conditions are met, and wherein the operation is executed~~
~~unconditionally if the condition code has a fourth value so that~~
~~the operation is performed by execution of the at least one~~
~~instruction without jumps and with reduced number of commands, and~~
wherein the operation is adapted to be performed in conjunction
with at least one of said operands.

10. (Currently Amended) The ~~record carrier method~~ of claim 9,

~~wherein further comprising the act of embedding~~ the at least one instruction ~~is embedded~~ in a Command List comprising a Command List Header which precedes the at least one instruction, and wherein the Command List further comprises an unconditional goto which points to a next list to be executed following execution of said Command List.

11. (Currently Amended) The ~~record carrier method~~ of claim 10, wherein the next list is another Command List.

12. (Currently Amended) The ~~record carrier method~~ of claim 10, wherein the next list is not another Command List.

13. (Currently Amended) The ~~record carrier method~~ of claim 10, wherein the Command List does not include any other instruction apart from the unconditional goto.

14. (Currently Amended) The ~~record carrier method~~ of claim 10, ~~wherein the further comprising the acts of:~~

embedding play control data is embedded including the playable

items in Play Lists, the Play Lists comprising at least a Play List Header as a first item and at least one Play Item representing playable user data and at least one reference to a further List; and

~~wherein embedding the selection control data is embedded in~~ Selection Lists, the Selection Lists comprising at least a Selection List Header, at least one reference corresponding to a user selection, the Headers being mutually different; ~~and~~

wherein the Command List includes a reference to a Play List of the Play Lists or a Selection List of the Selection Lists.

15. (Currently Amended) The ~~record carrier method~~ of claim 9, ~~wherein further comprising the act of storing the operation code~~ and the operands of each instruction ~~are stored in~~ a contiguous set of bytes.

16. (Currently Amended) The ~~record carrier method~~ of claim 9, wherein the at least one instruction includes a plurality of instructions, and wherein the instructions of the plurality of instructions are adapted to be executed in a coordinated fashion in

accordance with a computer program based on an algorithm.

17. (Currently Amended) The ~~record carrier of method~~ claim 9, wherein the operands in a first instruction of the at least one instruction include indices pointing to elements of an array.

18. (Currently Amended) The ~~record carrier of method~~ claim 17, wherein ~~the a~~ condition denoted in the first instruction includes a dependence ~~one on~~ at least one of said indices.

19. (Currently Amended) The ~~record carrier of claim 17 method~~ of claim 18, wherein the operation denoted in the first instruction is an Arithmetic operation.

20. (Currently Amended) The ~~record carrier method~~ of claim 19, wherein an index of said indices points to an element E of said array, and wherein the condition is $E > 0$, $E < 0$, or $E = 0$.

21. (Currently Amended) The ~~record carrier method~~ of claim 19, wherein a first index of said indices point to a first element E1

of said array, wherein a second index of said indices point to a second element E2 of said array, and wherein the condition is $E1 > E2$, $E1 < E2$, or $E1 = E2$.

22. (Currently Amended) The ~~record carrier method~~ of claim 17, wherein the operation denoted in the first instruction is a logical operation.

23. (Currently Amended) The ~~record carrier method~~ of claim 17, wherein the operation denoted in the first instruction is an assignment operation.

24. (Currently Amended) The ~~record carrier method~~ of claim 23, wherein the operands in the first instruction further includes a constant adapted to be inserted by the first instruction into at least one element of said array.

25. (Currently Amended) The ~~record carrier method~~ of claim 17, wherein the operation denoted in the first instruction is a jump operation, wherein a jump adapted to be executed by the jump

operation is a jump to a list adapted to be next executed.

26. (Currently Amended) The ~~record carrier method~~ of claim 17, wherein the operation denoted in the first instruction is a wait operation.

27. (Currently Amended) An apparatus for reproducing user data under control of control data, comprising a processor controllable by the control data and a record carrier for storing the user data and the control data in digital form, wherein the user data comprising video data, and wherein the control data comprises:

play control data which defines user data items of the user data which are playable;

selection control data for enabling the user to select user data and control reproduction of the selected user data; and

variable control data for operating on user and system variables, wherein the variable control data comprises at least one ~~conditional instruction, wherein each instruction of the at least one the conditional instruction includes~~ including an operation code indicating a type of operation to be performed, a condition

code, a type of calculation and operands, wherein the operation
code includes an operation portion denoting an operation and a
condition portion denoting a condition, wherein the operation is to
be executed if the condition is TRUE, wherein the operation is not
to be executed if the condition is FALSE code has first, second and
third values and at least one of respective first, second and third
conditions are met, and wherein the operation is executed
unconditionally if the condition code has a fourth value so that
the operation is performed by execution of the at least one
instruction without jumps and with reduced number of commands, and
wherein the operation is adapted to be performed in conjunction
with at least one of said operands.

28. (Previously Presented) The apparatus of claim 27, wherein
the processor comprises a single interpreter which is adapted to
process the play control data, the selection control data and the
variable control data sequentially.

29. (Previously Presented) The apparatus of claim 27, wherein
the at least one instruction is embedded in a Command List

comprising a Command List Header which precedes the at least one instruction, and wherein the Command List further comprises an unconditional goto which points to a next list to be executed following execution of said Command List.

30. (Previously Presented) The apparatus of claim 27, wherein the operands in a first instruction of the at least one instruction include indices pointing to elements of an array.

31. (Previously Presented) The apparatus of claim 30, wherein the condition denoted in the first instruction includes a dependence one at least one of said indices.

32. (Previously Presented) The apparatus of claim 30, wherein the operation denoted in the first instruction is an arithmetic operation.

33. (Previously Presented) The apparatus of claim 32, wherein an index of said indices points to an element E of said array, and wherein the condition is $E > 0$, $E < 0$, or $E = 0$.

34. (Previously Presented) The apparatus of claim 32, wherein a first index of said indices point to a first element E1 of said array, wherein a second index of said indices point to a second element E2 of said array, and wherein the condition is $E1 > E2$, $E1 < E2$, or $E1 = E2$.

35. (Previously Presented) The apparatus of claim 30, wherein the operation denoted in the first instruction is a logical operation.

36. (Previously Presented) The apparatus of claim 30, wherein the operation denoted in the first instruction is an assignment operation.

37. (Previously Presented) The apparatus of claim 36, wherein the operands in the first instruction further includes a constant adapted to be inserted by the first instruction into at least one element of said array.

38. (Previously Presented) The apparatus of claim 30, wherein the operation denoted in the first instruction is a jump operation, wherein a jump adapted to be executed by the jump operation is a jump to a list adapted to be next executed.

39. (Previously Presented) The apparatus of claim 30, wherein the operation denoted in the first instruction is a wait operation.

40. (Currently Amended) A method of reproducing user data under control of control data comprising the acts of:

reading the user data and the control data from a record carrier on which the user data and control data are stored in digital form, wherein the user data comprises video data, wherein the control data comprises play control data, selection control data and variable control data, wherein the selection control data enables a user of the method to select and control reproduction of user data items of the user data, wherein the variable control data controls operates on user and system variables, wherein the variable control data comprises at least one ~~conditional instruction, wherein each instruction of the at least one the~~

~~conditional instruction includes including~~ an operation code
~~indicating a type of operation to be performed, a condition code, a~~
~~type of calculation and operands, wherein the operation code~~
~~includes an operation portion denoting an operation and a condition~~
~~portion denoting a condition, wherein the operation is to be~~
~~executed if the condition is TRUE, wherein the operation is not to~~
~~be executed if the condition is FALSE~~ code has first second and
~~third values and at least one of respective first, second and third~~
~~conditions are met, and wherein the operation is executed~~
~~unconditionally if the condition code has a fourth value so that~~
~~the operation is performed by execution of the at least one~~
~~instruction without jumps and with reduced number of commands, and~~
wherein the operation is adapted to be performed in conjunction
with at least one of said operands; and

playing the user data under control of the play control data.

41. (Previously Presented) The method of claim 40, wherein the
at least one instruction is embedded in a Command List comprising a
Command List Header which precedes the at least one instruction,
and wherein the Command List further comprises an unconditional

goto which points to a next list to be executed following execution of said Command List.

42. (Previously Presented) The method of claim 40, wherein the operands in a first instruction of the at least one instruction include indices pointing to elements of an array.

43. (Previously Presented) The method of claim 42, wherein the condition denoted in the first instruction includes a dependence one at least one of said indices.

44. (Previously Presented) The method of claim 42, wherein the operation denoted in the first instruction is an arithmetic operation.

45. (Previously Presented) The method of claim 44, wherein an index of said indices points to an element E of said array, and wherein the condition is $E > 0$, $E < 0$, or $E = 0$.

46. (Previously Presented) The method of claim 44, wherein a

first index of said indices point to a first element E1 of said array, wherein a second index of said indices point to a second element E2 of said array, and wherein the condition is $E1 < E2$, $E1 < E2$, or $E1 = E2$.

47. (Previously Presented) The method of claim 42, wherein the operation denoted in the first instruction is a logical operation.

48. (Previously Presented) The method of claim 42, wherein the operation denoted in the first instruction is an assignment operation.

49. (Previously Presented) The method of claim 48, wherein the operands in the first instruction further includes a constant adapted to be inserted by the first instruction into at least one element of said array.

50. (Previously Presented) The method of claim 42, wherein the operation denoted in the first instruction is a jump operation, wherein a jump adapted to be executed by the jump operation is a

jump to a list adapted to be next executed.

51. (Previously Presented) The method of claim 42, wherein the operation denoted in the first instruction is a wait operation.